

CORRECTED VERSION

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
28 April 2005 (28.04.2005)

PCT

(10) International Publication Number  
**WO 2005/037339 A1**

(51) International Patent Classification<sup>7</sup>: **A61L 29/14**,  
29/16, A61F 2/06

Roskilde (DK). **THE UNIVERSITY OF AKRON**  
[US/US]; 302 East Buchtel Ave, Akron, OH 44325 (US).

(21) International Application Number:  
PCT/US2004/033851

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ANDERSEN, Erik**  
[DK/DK]; Ronnens Kvarter 5, Osted, DK-4000 Roskilde  
(DK). **SMITH, Daniel** [US/US]; 2988 Ridgeline Trail,  
Stow, OH 44224 (US). **RENEKER, Darrell** [US/US];  
300 Hampshire Road, Akron, OH 44313 (US).

(22) International Filing Date: 14 October 2004 (14.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(74) Agent: **MOXON, George, W., II**; Roetzel & Andress, 222  
South Main Street, Akron, OH 44308 (US).

(30) Priority Data:

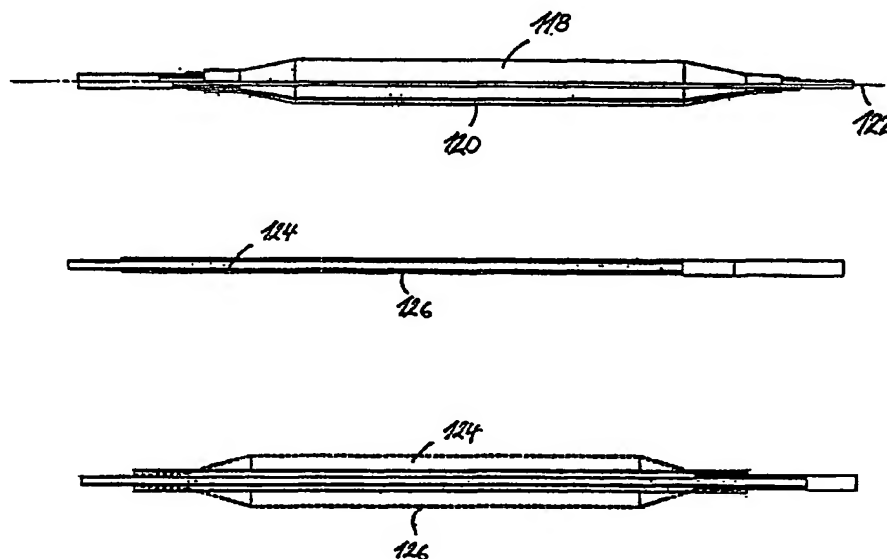
PA 2003 01514	14 October 2003 (14.10.2003)	DK
60/510,520	14 October 2003 (14.10.2003)	US
PA 2003 01864	16 December 2003 (16.12.2003)	DK
60/529,629	16 December 2003 (16.12.2003)	US
60/566,087	20 April 2004 (20.04.2004)	US
PA 2004 00671	29 April 2004 (29.04.2004)	DK

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

(71) Applicants (for all designated States except US): **CUBE**  
**MEDICAL A/S** [DK/DK]; Langebjerg 2, CK-4000

[Continued on next page]

(54) Title: A BALLOON FOR USE IN ANGIOPLASTY



(57) Abstract: An expandable balloon for use in angioplasty procedures comprises a balloon having an outer surface layer, the outer surface layer being made from electrospun nanofibers and incorporating at least one pharmaceutically active substance, such as nitric oxide (NO). The outer surface layer may be formed on a separate flexible tubular member or sock, which is slipped over the balloon. An acidic agent, such as ascorbic acid, may be included in the balloon for enhancing NO release. A method of treating cell disorders in tubular structures of a living being comprises the steps of placing a coated balloon at a treatment site within the tubular structures, expanding the balloon at the treatment site, and releasing the pharmaceutically active substance at the treatment site. Optionally, a stent may be crimped onto the balloon prior to insertion of the balloon and stent into the tubular structures of the living being.

WO 2005/037339 A1



TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

**Published:**

— with international search report

- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**(48) Date of publication of this corrected version:**

13 October 2005

**(15) Information about Correction:**

see PCT Gazette No. 41/2005 of 13 October 2005, Section II

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*